

**Southern Ohio Health Care Network**  
**July 2010 Quarterly Report for 2<sup>nd</sup> Quarter of 2010**

**I. Project Contact & Coordination Information**

**A.** The Southern Ohio Health Care Network (SOHCN) is incorporated as a 501(c)(3). In May 2009, the SOHCN amended its Articles of Incorporation and changed the composition of its Board of Directors as appropriate. On March 19, 2010, the SOHCN Board held its annual meeting and elected officers. The following is the updated list of SOHCN board members:

<u>Name</u>	<u>Position</u>	<u>Affiliation</u>
Marcus Bost	President	CIO, Adena Health System
Keith Coleman	Vice President	CFO, Adena Health System
Elisabeth Williams	Sec'y/Treasurer	CSO, Adena Health System
Kristine Barr	Member	CIO/VP of Comm., O'Bleness Health System
Morgan Saunders	Member	CIO, Holzer Consolidated Health Systems
Mark Shuter	Member	CEO, Adena Health System

**B.** Contact information for responsible administrative officials:

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**C.** The Southern Ohio Health Care Network Inc. Board of Directors is **legally** responsible for the conduct of activities supported by the FCC Rural Health Care Pilot Program (RHCPP) award. As the pilot project's fiduciary agent, Adena Health System is **financially** responsible for the conduct of activities supported by the FCC RHCPP award.

**D.** In 2008 and early 2009, the staff of Reid Consulting Group (RCG) contacted and/or visited all eligible health care providers (HCPs) in the thirteen (13) Phase I counties to explain the SOHCN project and collect FCC-required letters of agency (LOA) from each. Currently, in 2010, we are contacting all potential SOHCN members to inform them of Horizon's plans for the fiber build and update their contact information.

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The SOHCN has been expanded to include a total of 34 counties. Phase II of the network build will be the 21 remaining counties not included in Phase I. RCG has commenced preliminary Phase II field work, beginning to contact and visit the eligible health care facilities to explain the project and collect LOAs.

As stated in our original application, Phase II implementation will necessitate additional rounds of funding for the RHCPP because of the significantly expanded geographic scope of the Southern Ohio Health Care Network.

#### **Coordination with Region:**

In April 2008, the Southern Ohio Health Care Network (SOHCN) agreed to merge with Holzer Consolidated Health Systems (HCHS), the other Rural Health Care Pilot Project receiving funding in southeastern Ohio. In August 2008, HCHS and Adena Health System jointly petitioned USAC and the FCC to approve their merger request.

In the final quarter of 2008, the SOHCN board reviewed and offered comments/suggestions on the draft RFP prepared by Reid Consulting Group.

On December 5, 2008, FCC Wireline Competition Bureau Chief Dana R. Shaffer adopted an order accepting the merger request of the HCHS and SOHCN projects. As requested, the order names SOHCN as the successor to the HCHS Pilot Program project.

During the first quarter of 2009, USAC and RCG worked together to review the SOHCN's 465 Package. This often required RCG to act as the liaison between USAC and various SOHCN members to answer USAC's eligibility questions.

Upon successful completion of the 465 review process, the SOHCN's Form 465, 465-Attachment and RFP were posted publicly on March 31, 2009. A mandatory pre-bid web conference was held for all parties interested in responding to the SOHCN RFP on April 10, 2009. The original deadline for RFP responses was May 8, 2009, but upon the request of multiple carriers, that deadline was extended to May 26, 2009.

A scoring retreat was held on May 28, 2009, at the Adena Regional Medical Center. The five-member scoring team discussed and scored the six responses according to the rubric detailed in the RFP. The scoring team included: (1) Adena Manager of Technical Operations Roganne West, (2) Holzer CIO and SOHCN Board Member Morgan Saunders, (3) O'Bleness CIO and SOHCN Board Member Kristine Barr, (4) OARnet Technology Infrastructure Division's Director of Partner Relations Dennis Walsh, and (5) Ohio University Voice & Data Operations Manager Rick Manderick.

The scoring team selected Horizon Telcom to build and operate the SOHCN Phase 1 fiber-optic backbone. Horizon and the SOHCN are currently in contract negotiations to solidify the Master Services Agreement before proceeding with the 466 package. During this negotiation, Horizon and RCG engineers have conducted site surveys of HCPs that will serve as Points of Presence (POPs) for the SOHCN in anticipation of the build.

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RCG uses its SOHCN website, [www.sohcn.org](http://www.sohcn.org), and a SOHCN listserv to periodically update HCPs, carriers, vendors and other stakeholders on the project's progress. On June 10, 2009, the SOHCN widely distributed a press release announcing the Phase I contract award to Horizon.

#### **Coordination with Government:**

RCG is in regular contact with USDA Rural Development (both state and federal offices), Governor Strickland's Office of Appalachia, and our region's three ARC local development districts: Ohio Mid-Eastern Governments Association, Buckeye Hills – Hocking Valley Regional Development District, and Ohio Valley Regional Development Commission. All of the above agencies are kept informed of SOHCN's progress.

SOHCN is also in regular contact with the staffs of Rep. Zack Space (OH-18), Rep. Charlie Wilson (OH-6), and Senator Sherrod Brown. All three are adamant that SOHCN's expansion of broadband penetration must benefit not just the health care industry but entire communities throughout our region.

SOHCN has partnered with Congressman Space to advance a set of proposals known as Connecting Appalachia, which will improve health care in our region and deploy broadband infrastructure for economic development and educational purposes.

In February 2009, RCG and SOHCN Board President Marcus Bost travelled to Washington, D.C. for a series of meetings to discuss SOHCN's objectives and progress. We met with representatives from HRSA's Office of Rural Health Policy, FCC's Wireline Competition Bureau, USDA's Rural Development Broadband Division, Congressman Space and Congressman Wilson's offices.

The SOHCN submitted its BTOP/BIP (ARRA broadband programs) proposal for the Connecting Appalachia project on August 20, 2009, which was the final BTOP/BIP deadline for Round One funding applications. In late January 2010, NTIA provided official notification that our Round 1 application was unsuccessful.

In the second and final round of NTIA ARRA funding, Horizon served as the applicant for a revamped middle-mile proposal entitled the Connecting Appalachian Ohio – Middle Mile Consortium (CAO-MMC), one of three integrated, regional BTOP proposals that comprise Ohio's comprehensive plan for a statewide broadband network. The SOHCN is a partner in the CAO-MMC endeavor.

#### **Coordination with Technology Community:**

SOHCN's Ohio Academic Resources Network (OARnet, formerly known as OSCnet) liaison is Dennis Walsh, OARnet's Chief Relationship Officer. As stated above, Walsh was an invaluable member of the scoring team that selected the winning bid for SOHCN Phase 1.

More recently, OARnet Executive Director Pankaj Shah has joined SOHCN's Connecting Appalachia management team. SOHCN's partnership with OARnet is invaluable, as OARnet can provide our network with backhaul to Tier 1 NSPs, in-state bandwidth and high-caliber engineering talent as we continue to grow.

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Additionally, RCG President Tom Reid participates in a weekly conference call with Internet2 staff, partners and stakeholders. SOHCN understands the importance of staying connected and coordinated with nationwide data networks.

### **II: List of Health Care Facilities Included in the Network**

Please see the attached Excel spreadsheet for a list of participating sites, addresses and all requested information on each.

### **III. Network Narrative**

SOHCN has retained Reid Consulting Group to administer the network design and build. Reid Consulting Group specializes in data network planning, construction and maintenance. President Tom Reid has contracted with a network engineer, and they prepared the RFP and facilitated the carrier selection process.

RCG drafted the following network design narrative which details changes that have been made to SOHCN's original RHCPP proposal over the course of the currently ongoing Master Services Agreement (MSA) negotiation with Horizon Telcom. We will update this narrative upon the completion of contract negotiations.

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## **Network Narrative**

### **a. Description of the Backbone**



The FCC-funded Southern Ohio Health Care Network (SOHCN) will:

- + Deliver metropolitan-class fiber-based broadband in rural towns and villages, using a dense wave division multiplexing (DWDM) foundation, offering point-to-point (Layer 2) connections ranging in speed from 1 Gbps to 10 Gbps.
- + Add a diverse routing core to the DWDM fabric to provide any-to-any (Layer 3) connections ranging in speed from 1.5 Mbps to 1 Gbps.
- + Provide high capacity backhaul to Tier 1 Network Service Providers via redundant 10 Gbps DWDM wavelength services provided by the Ohio Academic Resources Network (OARnet).
- + Peer with OARnet's Layer 3 network to provide high performance in-state access for urban health care providers, universities and government.

**SOHCN  
Fiber-Optic  
Backbone**

### **b. How Health Care Providers Will Connect**

#### **Physical Considerations**

SOHCN will deploy a total of 3 interconnected fiber rings, each benefiting from 100% route diversity (minimum geo-path separation of 100 feet). These rings will provide the foundation for last-mile options in both the fiber-optic and wireless implementations. The POPs, most to be hosted in computer rooms of regional medical centers, will be served by diverse entry to the facility (minimum separation of twenty feet at building entrance).

The 24-strand fiber cables for the trunk routes will allow expansion capacity and provide splice junctions to shorten the distance of last-mile fiber runs to smaller facilities and network-to-network interconnection links. A large majority of the fiber runs for SOHCN will be aerial, attached to existing power poles. Current state-of-the-art cable construction and suspension practices make aerial fiber as reliable as buried cable, while dramatically speeding installation and simplifying right-of-way processes.

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### III. Network Narrative (continued)

#### Southern Ohio Health Care Network Phase I – Lambda & Regional Ethernet Network

1029	1014	1034	1009	1006		1143	1144	1142	1020	1104
1098	1129		1028	1007	1010	1107	1110	1111	1112	1113
1099		1049	1001		1012	1011				
Washington C.H.		Chillicothe					1114	1115	1116	1117
		Circleville			1031					
1032	1079	1013	1008		1019	1030	1119	1120	1121	1128
		1013	1008							
1073	1096				1003	1136	1139	1140	1141	1123
			OARnet							1124
1005	Greenfield									1125
			Horizon		Athens	1108				
1076	1077	1131			1066		OARnet			
1074	1072	1033	1097		McArthur				1021	1038
					1106					
1075	1071	1070	1078						1086	1109
					1137	1105				
1069	Hillsboro							Pomeroy		
					1022				1122	1134
1095	1068	1045	1016	1067	1083					
				Pike Community						
1103	1015	1035	1135							
						1081				
1065			1004							
Seaman			Waverly							
	West Union				1002					
1024	1102	1040	1127							
		Portsmouth	1101			Jackson	1054		Gallipolis	1050
1017	1023	1027	1039	OARnet	1052	1132	1056	1036	1051	1055
										1057
1041	1042	1043	1044		1126	1037	1058	1080	1082	1130
1046	1047	1048	1100		1053	1018		1087	1088	1089
										1090
			Ironton							
								1091	1092	1093
										1094
1025	1026	1059	1060							
1061	1062	1063	1064							
1084	1085	1133								

#### Legend

- ROADM / WXC / Xponder Site
- ROADM / Xponder Site
- Xponder Site
- Class 2 Site
- Class 3 Site
- Class 4 Site



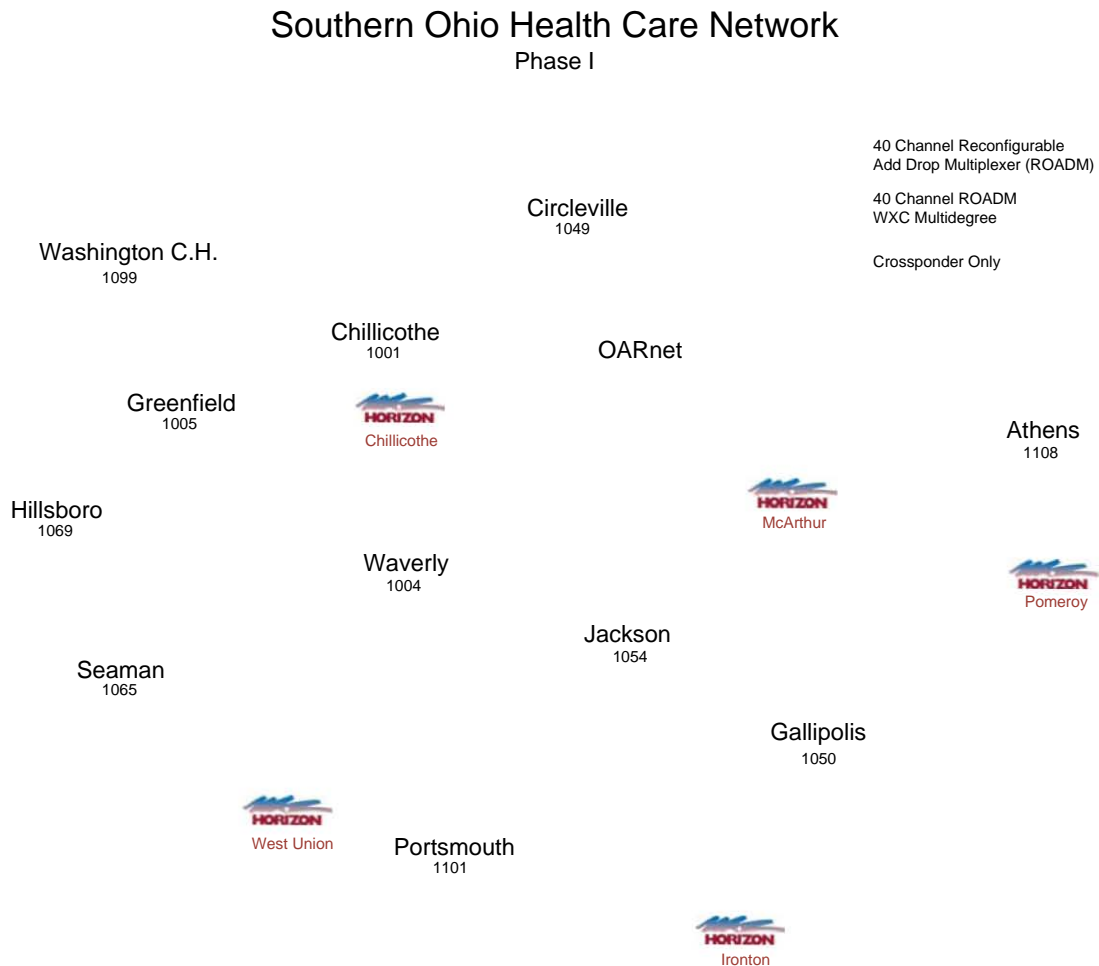
# Southern Ohio Health Care Network

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### III. Network Narrative (continued)

#### Layer 2 Design

SOHCN will use Cisco equipment to light the fiber rings with fully redundant 40-channel DWDM-15454 components. Reconfigurable optical add/drop multiplexing (ROADM) hardware in each POP will provide a flexible optical fabric across all of the rings. Cisco's Crossponder technology will extend the Ethernet core over the DWDM network to every POP. The Crossponders integrate a 20-port Gigabit switch with dual DWDM uplinks, which we will connect to separate lambdas to increase capacity and improve reliability. The network will deliver point-to-point (Layer 2) fiber-optic connections ranging in speed from 1 Gbps to 10 Gbps (and will support future 40 Gbps links).



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**III. Network Narrative (continued)**

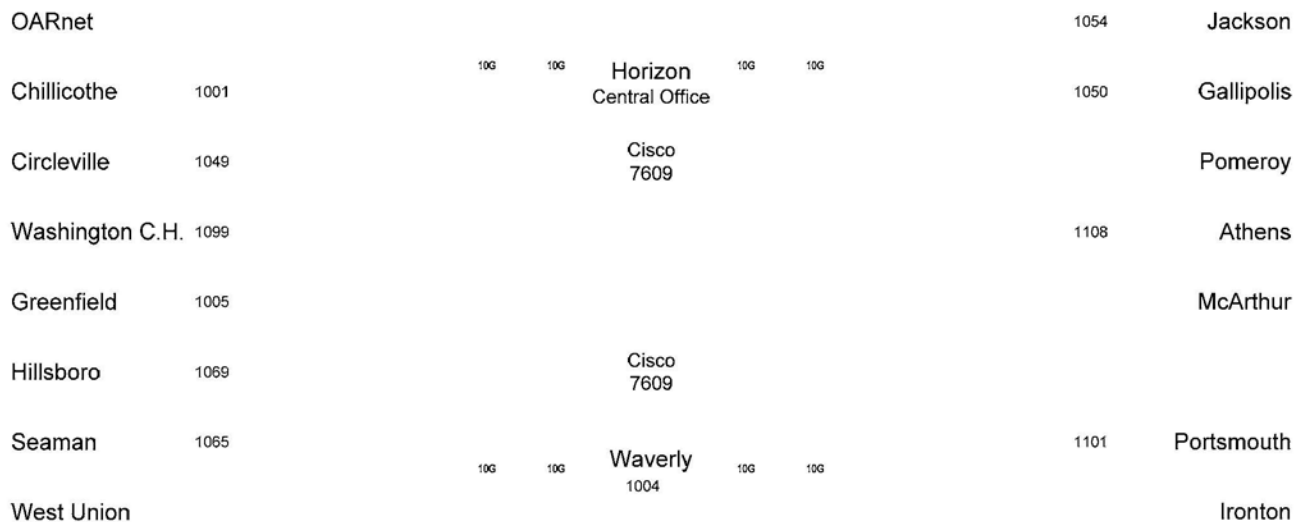
**Layer 3 Design**

To provide any-to-any (Layer 3) services, we will deploy geographically dispersed and redundant Cisco 7609-S routers to provide any-to-any (Layer 3) fiber-optic connections ranging in speed from 1.5 Mbps to 1 Gbps. As traffic increases, additional router cores will be added to support the growth, maintaining both low latency and high packet delivery rates. Rates for service will anticipate the need for future growth in capacity and lifecycle replacement requirements.

**Crossponder Flexibility**

The innovative crossponder technology features dual lambda interconnection, providing 0% oversubscription in our load profiles. Interconnected to the routers and the DWDM fabric, the crossponders can provide 1 Gbps Layer 2 or Layer 3 services.

**Southern Ohio Health Care Network**  
Regional Ethernet Service





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**III. Network Narrative (continued)**

**c. Connection to a National Backbone**

The SOHCN will connect to the Ohio Academic Resources Network (OARnet) in at least two locations, Chillicothe and Athens, at speeds of up to 2.5 Gbps. OARnet will provide high-speed in-state connectivity to urban health centers and universities. OARnet is also Ohio's regional connector for Internet2. The membership of the SOHCN, though, has not yet committed to joining Internet2 due to the associated ongoing costs. Deliberations continue among the members regarding the cost-benefit analysis of Internet2 membership. As Internet2 continues to demonstrate its value and barriers to inter-state medical cooperation decrease, we believe the membership will opt to join Internet2.

**d. Number of Miles of Fiber to be Constructed**

The SOHCN will purchase Indefeasible Rights to Use (IRU) on both newly installed fiber and existing fiber. The fiber assets will include backbone and last mile connections. We are currently working with Horizon to create the completed list of fiber assets that will provide a detailed inventory.

**e. Network Management and Maintenance**

Under a Master Services Agreement with the SOHCN, Horizon will manage the entire network. The SOHCN will have read-only access into the management tools to verify compliance with all performance requirements as defined in the Horizon RFP response.

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### IV. List of Connected Health Care Providers

SOHCN does not yet have any health care providers that are connected to the network and operational.

### V. Non-Recurring and Recurring Costs

Under the MSA currently being negotiated by SOHCN and Horizon Telecom, FCC RHCPP funding and the required 15% match will not be used for any recurring costs. SOHCN member facilities will be responsible for paying all recurring costs of their connectivity to the network, but these monthly service rates will be greatly reduced from standard commercial rates because of the capital buydown made possible by the SOHCN paying for its fiber infrastructure upfront. The vast majority of the RHCPP award and match will be used to purchase Indefeasible Rights to Use (IRU) both newly installed fiber and existing fiber. The fiber assets will include the SOHCN backbone and all last mile connections to eligible HCPs.

No actual RHCPP eligible costs have been incurred this fiscal quarter or yet this funding year. Here are the **budgeted, non-recurring** costs we will be using RHCPP funds and match to cover, broken down by each of the seven expense categories listed in paragraph 5 of Appendix D of the *2007 RHC Pilot Program Selection Order*:

- a. Network Design: \$0
- b. Network Equipment, including engineering and installation: \$0
- c. Infrastructure Deployment/Outside Plant
  - i. Engineering: \$0
  - ii. Construction: \$18.4 Million to purchase fiber IRUs with 20-year term plus 10-year renewal option for \$1.
- d. Internet1, NLR, or Public Internet Connection: \$0
- e. Leased Facilities or Tariffed Services: \$0
- f. Network Management, Maintenance, and Operation Costs (not captured elsewhere): \$0
- g. Other Non-Recurring and Recurring Costs: \$0

### VI. Apportioned Costs & Funding Sources to Pay Them

SOHCN will not be able to initiate the process of apportioning costs until the Master Services Agreement with Horizon has been finalized. However, here are preliminary responses broken down by required response sections (a) – (d):

- a. **Explain how costs are identified, allocated among, and apportioned to both eligible and ineligible network participants.**

As explained in Section V above, RHCPP funds and match will be used to purchase all SOHCN fiber infrastructure. The fiber IRU documentation will list each fiber

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link described by: facility served, distance of fiber run, type of fiber, year installed (if fiber already exists), strand count included in IRU, dollar value for the fiber run.

SOHCN members' recurring, monthly service charges for connectivity are identified in the rate tables found in Horizon Telecom's RFP response. There are different rate table for eligible and ineligible entities.

Each SOHCN member will decide which speed/level of service to subscribe to based on the facility's needs and budget. The HCP will then pay the monthly charge indicated on its respective Horizon rate table. In addition, each SOHCN member will be charged a 7% monthly membership surcharge as detailed below in (b).

**b. Describe the source of funds from:**

- i. Eligible Pilot Program network participants:** Each participant's monthly connectivity cost will be identified and apportioned as described above. It will be paid directly to Horizon, and will presumably come from the health care facility's operating budget. In addition, the participant will pay a 7% SOHCN Membership Monthly Surcharge; this fee will be put toward paying off Adena's \$2.78M loan to the SOHCN for the RHCPP's required 15% match. For example, if an eligible participant decides it needs a 100 Mbps connection, the Horizon rate table lists the monthly cost as \$666.67, which means the facility's SOHCN membership monthly surcharge will be \$46.67.
- ii. Ineligible Pilot Program network participants:** Ineligible participants will identify their monthly cost as outlined above using Horizon's rate table for ineligible sites. These monthly rates are higher than those for eligible sites, and ineligible sites must also pay last-mile fiber installation costs. Ineligible sites must also pay the 7% SOHCN Membership Monthly Surcharge detailed above. Again, presumably, these funds will come from the HCP's operating budget.

**c. Show contributions from all other sources:** The SOHCN fiduciary agent, Adena Health System, has contributed approximately \$420,030 to date for project costs not covered by the RHCPP fund and match. These costs include project management, RFP creation and the ensuing bidding process, as well as member outreach and supplying public information.

Adena has also agreed to loan the SOHCN the \$2.78M match required by the RHCPP because financial hardship in our economically distressed region of Appalachia precluded individual members from being able to contribute their share of the 15% match.

- i. Identify source of financial support and anticipated revenues that is paying for costs not covered by the fund and by Pilot Program participants:** Adena is the largest regional health system in SOHCN Phase I. Despite severe economic instability nationwide, Adena has been able to maintain its financial stability and posted a net revenue of \$293 million last year. Adena supports the SOHCN because it believes

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increased collaboration and economic development in our region will help Adena grow and remain financially healthy.

The 7% SOHCN Membership Monthly Surcharge will eventually enable Adena to recoup its \$2.78 million loan to the SOHCN to pay the RHCPP-required 15% match.

- ii. **Identify the respective amounts and remaining time for such assistance:** SOHCN's current financial projections estimate that the SOHCN will be self-sustaining by 2011. Until then, Adena has budgeted \$56,400 to cover the remaining SOHCN implementation tasks through Dec. 2010.

- d. **Explain how the selected participant's minimum 15% contribution is helping to achieve both the selected participant's identified goals and objectives and the overarching goals of the Pilot Program:** The SOHCN's 15% match contribution is just as important to the success of the project as its \$15.76 million RHCPP award. Both are necessary to procure the 20-year fiber IRUs that constitute the Southern Ohio Health Care Network backbone and last-mile connections. This critical infrastructure will allow us to achieve the goals we share with the Pilot Program: a robust regional broadband health care network that supports electronic health records, telemedicine, continuing medical education via distance learning, and ties into the National Health Information Network being developed by HHS.

### **VII. Requirements & Procedures Necessary for Ineligible Entities' Network Participation**

All ineligible sites listed in Section II are owned by or in some way affiliated with SOHCN's eligible agencies. Ineligible sites have only been included in the SOHCN because they are integral to the operation of regional health care agencies made up mostly of RHCPP-eligible facilities. Horizon has offered to provide the last-mile fiber connections to these sites at no cost if they elect to subscribe to SOHCN services in the first six months that services are available at a given location. Horizon makes this offer in order to generate early revenues, as an incentive for these sites to link to the network.

### **VIII. Updates to Project Management Plan**

**A.** As stated above, during the second quarter of 2008, the Southern Ohio Health Care Network was incorporated as a 501(c)(3). SOHCN formed a Board of Directors and elected officers.

In the fourth quarter of 2008, the FCC approved the merger request of the Southern Ohio Health Care Network and Holzer Consolidated Health Systems. The resulting joint project will fulfill the objectives stated in **both** original funding proposals.

There were no changes to the project's management structure made in the first quarter of 2009. In the second quarter of 2009, the SOHCN bylaws were amended and the Board of Directors composition was altered accordingly (See Section I. A. of this report.). No additional changes were made in the third or fourth quarters of 2009. In the first quarter of 2010, a SOHCN Board annual meeting included officer elections (See Section I. A. of this

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report for results.). There were no changes made to the project management plan or leadership in the second quarter of 2010.

#### B. Project Plan/Schedule

In previous quarterly reports we have included the schedule for SOHCN Phase 2 development. However, when SOHCN completed the bid process for Phase 1 during the second quarter of 2009, we learned definitively that Phase 2 will require a second round of RHCPP funding. Since that time, we have reconfigured our project work plan and schedule to only include the remaining benchmarks for Phase 1 completion.

<u>Year:</u>	<u>Quarter:</u>	<u>Objectives</u>
2010	early 3 <sup>rd</sup>	Complete Contract Negotiations w/Horizon
2010	3 <sup>rd</sup>	Complete & Post 466 Package
2010	3 <sup>rd</sup>	Implement Phase 1 network build
2010	3 <sup>rd</sup>	Chillicothe Rings Operational and Fully Redundant Adena Facilities Operational Adena Data Replication Link Available Chillicothe OARnet POP Interconnected OARnet Peering Arrangements Established South Ring Operational Jackson Ring Operational O'Bleness Memorial Hospital Operational via Temporary Ring Existing O'Bleness HS Network Interconnected Existing Holzer HS Network Interconnected Existing Holzer Clinic Network Interconnected Existing SOMC Network Interconnected All Peering Arrangements Established Participating Ross County Class 3 Facilities Connected
2010	4 <sup>th</sup>	South Ring Fully Redundant Jackson Ring Fully Redundant Holzer Medical Center – Gallipolis Operational Holzer Data Replication Link Available Berger Hospital Operational Fayette Memorial Hospital Operational Existing Berger HS Network Interconnected All Other OARnet POPs Interconnected (As Desired)
2011	1 <sup>st</sup>	East Ring Operational and Fully Redundant Athens Local Ring Operational and Fully Redundant Nelsonville Doctor's Hospital Operational
2011	1 <sup>st</sup>	Highland District Hospital Operational Adams County Regional Medical Center Operational

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Ironton Fiber Route Completed  
25% of Class 3 and 4 Facilities Connected

2011	2 <sup>nd</sup>	West Ring Operational and Fully Redundant 50% of Class 3 and 4 Facilities Connected
2011	3 <sup>rd</sup>	All Participating Class 3 and 4 Facilities Operational

**Explanation of Missed Milestones & Delay Between Contract Award and 466 Filing:**

In our previous quarterly report, we stated a goal of having contract negotiations completed with Horizon Telcom and posting the 466A Package by the end of June 2010. Contract negotiations have proven more complex than anticipated, and as the SOHCN fiduciary agent, Adena Health System is painstakingly creating a business plan to ensure the network's sustainability. The Adena finance team has been in consultation with several financial advisors, accountants and others to devise the best method for handling the impact of SOHCN asset depreciation on SOHCN's income statement and balance sheet. Horizon and SOHCN have also taken this time to carefully negotiate the fiber-optic backbone's IRU values, terms and conditions.

Though contract negotiations and financial planning have taken longer than we expected, the complexities of obtaining a feasible source for the \$2.78 million match presented a serious obstacle to our project's progress. While we had been pursuing many avenues to attain the required 15% match since the FCC notified SOHCN of its RHCPP award, we did not know how desperate the economic situation would become as a result of the global financial crisis that began in 2008. However, the Adena Board of Directors approved its Finance Committee's recommendation to lend the SOHCN the required match funds, so we should be able to progress on this front without further delay.

We narrowly missed our self-imposed deadline for completion of contract negotiation stated in the last quarterly report and fully expect to execute all elements of the contract between SOHCN and Horizon within the first couple weeks of July 2010.

**IX. Network's Self-Sustainability**

With the expectation of completing contract negotiations and filing our 466A package in the first two weeks of July 2010, Reid Consulting Group has prepared the following SOHCN Sustainability Plan. It will be included in our 466A package. This sustainability plan details SOHCN members' monthly recurring cost savings over the course of the next ten years.



**WC Docket No. 02-60**

# **Sustainability Plan**

12 July 2010

On behalf of RHCPP Recipients

**Adena Health System** – Chillicothe, Ohio  
**Holzer Health Systems** – Gallipolis, Ohio  
**O'Bleness Health System** – Athens, Ohio  
and  
**All SOHCN Members**

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## The Challenges

The Southern Ohio Health Care Network (SOHCN) is a consortium of health care providers serving a population of 1.9 million across thirty-four rural counties spanning over 16,000 square miles of Southeast Ohio. The SOHCN service area includes the ten poorest and all six ARC-distressed counties in Ohio. Federal health-care designations blanketing the SOHCN region include Health Professional Shortage Areas (HPSA), one-dozen Critical Access Hospitals (CAH) and 40+ Federally Qualified Health Centers (FQHC).

Given these circumstances, health care professionals in Southeast Ohio are all too familiar with the challenges of practicing medicine in an impoverished, geographically isolated region. Broadband medical tools will provide the critical leverage needed to increase efficiency, improve outcomes and lower costs, but the required high-quality network connections remain unavailable.

## The Solution

SOHCN objectives include:

- Create an inclusive and sustainable broadband health care network open to all providers in the service area.
- Enhance sustainability of rural medical practices.
- Develop deeper, mutually beneficial collaboration among health care providers.
- Expand telemedicine capacity through immersive telepresence based on high-definition video, high-fidelity audio and the latest diagnostic equipment.
- Deliver high-impact continuing education programs for physicians and allied health professionals.
- Support a progressive community health record project and efforts to create a regional health information organization (RHIO).
- Participate in statewide efforts to build a unified health care information infrastructure and cooperative clinical services.

The SOHCN has been awarded \$16.1 million under the FCC Rural Health Care Pilot program (RHCPP) for our 13-county Phase I area. The SOHCN originated with a partnership between the Adena Health System and O'Bleness Health System, resulting in an application for \$14.3 million in funding from the RHCPP. In addition, Holzer Consolidated Health System also received an award for \$1.8 million. Holzer agreed to join the SOHCN, pooling the collective resources to magnify the impact further. A formal merger request was approved by the FCC in late 2008.

Through a competitive bidding process, Horizon Telcom was selected as the carrier for the SOHCN.

**The SOHCN Inc. is a 501(c)(3) operated by an independent board under the fiduciary oversight of the Adena Health System Inc., 272 Hospital Road, Chillicothe, Ohio 45601**



With the FCC funding we are partnering with Horizon Telcom to build the SOHCN Fiber-Optic Backbone that will deliver:

1. Connection of rural health care providers, large and small, to the robust network with fiber IRUs owned by the SOHCN to all facilities
2. Fiber-optic rings to provide the reliability necessary to support real-time health care innovations with fiber IRUs owned by the SOHCN in all rings
3. Metropolitan-class broadband services in the 13-county Phase I service area available to:
  - SOHCN members at deeply discounted rates reflecting the investment of the FCC funds in the fiber IRUs
  - Businesses, government offices and non-profit agencies in the SOHCN communities at unsubsidized market rates

## Key Sustainability Factors

Our keys to network sustainability include the following:

- Support from three of the largest non-profit health care systems in the region (Adena Health System, O'Bleness Health System & Holzer Consolidated Health System)
- Partnering with a telecommunication carrier, Horizon Telcom, to build and operate the fiber optic network
- Buy down of capital costs in the form of fiber IRUs with the FCC funds to keep recurring costs within the budget range of our participating rural providers
- Expenses for existing T-1s and other existing communications facilities will remain committed to the SOHCN project
- Horizon is offering up to six months of service credit to assist facilities with early termination fees for existing contracts with competing broadband providers
- SOHCN members are not required to subscribe, yet the SOHCN will own IRUs to all SOHCN member facilities to support either immediate or future connectivity
- Fiber maintenance costs are covered by Horizon for as long as the Master Services Agreement is in effect

## Additional Enhancements to HCP's Bottom Line

In addition to providing discount broadband pricing, the connectivity enabled through the FCC funding will support the sustainability of the rural Health Care Providers through:

- Efficiencies gained from use of hosted electronic health records
- More effective sharing of medical expertise and information
- Critical and intensive care consultations from urban medical centers to rural hospitals using HDTV quality picture and sound
- Communities of interest sharing best practices, responding to public health emergencies and delivering continuing medical education



## Project Partners

The SOHCN has secured the support and involvement of numerous partners. These partnerships will propel the SOHCN beyond mere sustainability into full realization of our far reaching agenda.



- Buckeye Hills – Hocking Valley Regional Development District (BH-HVRDD)
- Ohio Valley Regional Development Commission (OVRDC)
- Ohio Mid-Eastern Governments Association (OMEGA)



## Sustainability Budget Analysis

The SOHCN-Horizon Master Services Agreement (MSA) provides deeply discounted services for the eligible health care providers. As mentioned earlier, the MSA does not require any committed spend by the SOHCN or its members. Thus HCPs are free to select the SOHCN-Horizon services or continue with their existing broadband services. However, we expect rapid uptake as existing expenditures can yield significant bandwidth increases by redirecting the expenditures to Horizon. For instance, many of our members utilize T-1 connections at a cost of \$425 per month. For \$400 per month, they can instead connect to the SOHCN at 10 Mbps.

The table below and on the following pages reflect a market-basket based analysis assuming 100% uptake by the eligible HCPs.

	Current MRC	New MRC
Total MRC	\$77,262	\$57,602
10 Year Totals	\$9,271,440	\$6,912,240
<b>10-Year Savings</b>		<b>\$2,359,200</b>

SOHCN Facility ID	465 Facility ID	HCP	Facility	Current MRC	New MRC
1001	1	Adena	Regional Medical Center	\$14,300	\$12,000
1002	2	Adena	Urgent Care - Jackson	\$6,000	\$2,000
1004	4	Adena	Urgent Care - Waverly	\$6,000	\$2,000
1005	5	Adena	Greenfield Area Medical Center	\$6,000	\$2,000
1006	6	Adena	Counseling Center	\$1,000	\$400
1007	7	Adena	Medical Office Building	\$1,000	\$400
1008	8	Adena	Urgent Care - Chillicothe	\$1,000	\$400
1009	9	Adena	Rehab & Wellness Center	\$1,000	\$400
1015	15	CAC of Pike Co.	Family Health Centers-Waverly	\$425	\$400
1016	16	CAC of Pike Co.	Family Health Centers-Piketon	\$425	\$400
1017	17	CAC of Pike Co.	Family Health Centers-West Portsmouth	\$425	\$400
1018	18	CAC of Pike Co.	Family Health Centers-Jackson	\$425	\$400
1019	19	Family Health Care, Inc	Family Health Clinic-Ross Co.	\$425	\$400
1020	20	Family Health Care, Inc	Family Health Clinic-Athens Co.	\$425	\$400
1021	21	Family Health Care, Inc	Family Health Clinic-Meigs Co.	\$425	\$400
1022	22	Family Health Care, Inc	Family Health Clinic-Vinton Co.	\$425	\$400
1023	23	Shawnee Mental Health Center, Inc.	Mental Health Clinic-Portsmouth	\$425	\$400
1024	24	Shawnee Mental Health Center, Inc.	Mental Health Clinic-West Union	\$425	\$400
1025	25	Shawnee Mental Health Center, Inc.	Mental Health Clinic	\$425	\$400
1026	26	Shawnee Mental Health Center, Inc.	Mental Health Clinic-Coal Grove	\$425	\$400
1027	27	Shawnee Mental Health Center, Inc.	Mental Health Crisis Center	\$425	\$400
1028	28	Scioto Paint Valley Mental Health Center	Main Office	\$425	\$400
1029	29	Scioto Paint Valley Mental Health Center	Fayette County Clinic	\$425	\$400
1030	30	Scioto Paint Valley Mental Health Center	Floyd Simantel Clinic	\$425	\$400
1031	31	Scioto Paint Valley Mental Health Center	Great Seal Clinic	\$425	\$400
1032	32	Scioto Paint Valley Mental Health Center	Lynn Goff Clinic	\$425	\$400
1033	33	Scioto Paint Valley Mental Health Center	Highland County Clinic	\$425	\$400
1034	34	Scioto Paint Valley Mental Health Center	Pickaway County Clinic	\$425	\$400
1035	35	Scioto Paint Valley Mental Health Center	Pike County Clinic	\$425	\$400
1036	36	Woodland Centers Inc.	Gallia Office	\$425	\$400
1037	37	Woodland Centers Inc.	Outpatient Clinic-Jackson	\$425	\$400
1038	38	Woodland Centers Inc.	Outpatient Clinic-Meigs	\$425	\$400
1039	39	The Counseling Center, Inc.	Counseling Center & Family Health Clinic	\$425	\$400
1040	40	The Counseling Center, Inc.	Adams County Office	\$425	\$400
1046	46	The Counseling Center, Inc.	Ray's Place	\$425	\$400
1048	48	CAO Scioto County	Health Program	\$425	\$400
1049	49	Berger Health Systems	Berger Health System	\$425	\$400
1050	50	Holzer Consolidated Health Systems	Medical Center	\$425	\$400
1051	51	Holzer Consolidated Health Systems	The Medical Plaza	\$425	\$400
1052	52	Holzer Consolidated Health Systems	Dental Health Partners	\$425	\$400
1053	53	Holzer Consolidated Health Systems	Jenkins Memorial Health Clinic	\$425	\$400
1054	54	Holzer Consolidated Health Systems	Holzer Medical Center-Jackson	\$425	\$400
1057	57	Family Addiction Community	FACTS	\$425	\$400
1058	58	Family Addiction Community	New Alternatives	\$425	\$400
1060	60	CAO Ironton-Lawrence County	Family Guidance Center	\$425	\$400
1061	61	CAO Ironton-Lawrence County	Chesapeake Family Medical Center	\$425	\$400
1062	62	CAO Ironton-Lawrence County	Kemp Family Medical Center	\$425	\$400
1063	63	CAO Ironton-Lawrence County	Ironton Family Medical Center	\$425	\$400
1064	64	CAO Ironton-Lawrence County	South Point Family Medical Center	\$425	\$400

SOHCN Facility ID	465 Facility ID	HCP	Facility	Current MRC	New MRC
1065	65	Adams County Regional Medical Center	Regional Medical Center	\$425	\$400
1066	66	Doctors Hospital of Nelsonville	Doctors Hospital	\$915	\$667
1067	67	Pike Community Hospital	Pike Community Hospital	\$864	\$667
1068	68	Pike Community Hospital	Piketon Professional Center	\$425	\$400
1069	69	Highland District Hospital	Highland District Hospital	\$776	\$667
1070	70	Highland District Hospital	Highland Family Medicine	\$863	\$667
1071	71	Highland District Hospital	Highland Pediatric Services	\$425	\$400
1072	72	Highland District Hospital	Community Health Clinic	\$425	\$400
1073	73	Highland District Hospital	Greenfield Medical Services	\$425	\$400
1074	74	Highland District Hospital	Lynchburg Medical Center	\$425	\$400
1075	75	Highland District Hospital	Physicians for Women Association	\$225	\$400
1076	76	Highland District Hospital	Highland Neurology	\$425	\$400
1077	77	Highland County CAO	Family Health Service	\$425	\$400
1078	78	Highland County CAO	Greenfield Outreach	\$425	\$400
1095	94	HealthSource of Ohio	Seaman Health Center	\$425	\$400
1096	96	HealthSource of Ohio	Hillsboro Health Center	\$225	\$400
1097	97	HealthSource of Ohio	Washington Court House Family	\$425	\$400
1099	98	Fayette County Memorial Hospital	Fayette County Memorial Hospital	\$425	\$400
1100	99	Dr. John DiTraglia Pediatrics	DiTraglia Pediatrics	\$425	\$400
1101	100	Southern Ohio Medical Center	Southern Ohio Medical Center	\$1,125	\$667
1102	101	Adams Brown Counties Economic	Family Health Clinic	\$425	\$400
1103	103	Tri County Mental Health & Counseling	Athens County Clinic	\$425	\$400
1105	104	Tri County Mental Health & Counseling	Crisis Stabilization Unit-Athens	\$425	\$400
1106	105	Tri County Mental Health & Counseling	Vinton County Clinic	\$425	\$400
1107	106	Tri County Mental Health & Counseling	REACH	\$425	\$400
1108	107	O'Bleness Health System	O'Bleness Memorial Hospital	\$894	\$667
1109	108	O'Bleness Health System	Meigs Medical Clinic	\$425	\$400
1110	109	O'Bleness Health System	Family Practice Clinic	\$425	\$400
1111	110	O'Bleness Health System	Albany Medical Clinic	\$425	\$400
1112	111	O'Bleness Health System	Dermatology Clinic	\$225	\$400
1113	112	O'Bleness Health System	Women's Clinic	\$425	\$400
1126	125	Jackson-Vinton Community Action	Health Services	\$425	\$400
1127	126	Ohio Department of Health	Adams County	\$425	\$400
1128	127	Ohio Department of Health	Athens County Clinic	\$425	\$400
1129	128	Ohio Department of Health	Fayette County	\$425	\$400
1131	129	Ohio Department of Health	Highland County	\$425	\$400
1132	130	Ohio Department of Health	Jackson County	\$425	\$400
1133	131	Ohio Department of Health	Lawrence County	\$425	\$400
1134	132	Ohio Department of Health	Meigs County	\$425	\$400
1135	133	Ohio Department of Health	Pike County	\$425	\$400
1136	134	Ohio Department of Health	Ross County	\$425	\$400
1137	135	Ohio Department of Health	Vinton County	\$425	\$400
1130	136	Ohio Department of Health	Gallia County	\$425	\$400
1138		University Medical Associates	Albany Family Practice	\$425	\$400
1139		University Medical Associates	Cornwell Center	\$425	\$400
1140		University Medical Associates	Castrop Center	\$425	\$400
1141		University Medical Associates	Parks Hall	\$425	\$400
1142		University Medical Associates	Coolville Healthcare Center	\$425	\$400
1143		University Medical Associates	Nelsonville Family Medicine	\$425	\$400
1145		University Medical Associates	Express Care	\$425	\$400

## **Southern Ohio Health Care Network**

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#### **X. Network's Role in Advancing Telemedicine**

Given that our network has yet to be built, we have not had a measurable impact on telemedicine in our part of the state. However, in late September 2008, we were notified that our proposal to the USDA Rural Development's Distance Learning & Telemedicine program was successful. The \$277,695 grant award (with an additional 15% match from applicant Adena) will provide four SOHCN health care facilities in our poorest, most rural areas with telemedicine equipment and training. We submitted a 2009 USDA DLT proposal this March and were informed in early October 2009 that it too will receive funding. The 2009 award provides an additional \$226,467 in USDA Rural Development funds to bring telemedicine equipment to eight more SOHCN sites. When our RHCPP project is completed, these 12 HCPs will have the fiber bandwidth they need to participate in cutting-edge telemedicine with HD videoconferencing.

#### **XI. Compliance with HHS Health IT Initiatives**

We have not completed the network build yet. However, all network architecture plans made to date comply with all HHS initiatives and interoperability standards in order to support the creation of the Nationwide Health Information Network. The SOHCN is designed as a standards-based network with open architecture that allows peering to multiple Tier 1 service providers.

When the SOHCN is fully operational, it will be a tremendous support for our fledgling RHIO, the Appalachian Health Information Exchange (AHIE). AHIE has been floundering without broadband connectivity in Southern Ohio. The SOHCN will provide for sharing of electronic health records and public health information regionally, and it will peer with OARnet's Layer 3 network to provide high-performance in-state access to urban health care providers, universities and government.

#### **XII. Coordination with HHS in Public Health Emergencies**

When the SOHCN is fully operational, it will provide – for the first time in Appalachian Ohio – a high-capacity, fully redundant fiber-optic infrastructure allowing our region's health care providers to take part in a nationally orchestrated response to health emergencies. The SOHCN's physical fiber route diversity and disaster recovery data replication links make the network a reliable and dependable source of connectivity even in times of crisis and natural disasters.

The SOHCN will provide broadband connectivity to all health departments in our service area, which is critical as health departments provide the first line of defense during public health emergencies. In addition, the uniform telemedicine equipment packages, videoconferencing, and web-based synchronous and asynchronous (featuring persistent virtual rooms) communication capabilities being funded by USDA Distance Learning & Telemedicine projects will run on SOHCN connectivity and further equip medical personnel to coordinate emergency responses.

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At the heart of the SOHCN, Adena's PACCAR Medical Education Center ([www.adenapaccar.com](http://www.adenapaccar.com)) continues to perform groundbreaking health care quality research that, when disseminated to SOHCN members via the network's broadband connectivity, will improve our region's ability to effectively respond to public health emergencies.

While we hope to never encounter public health emergencies in our region, we are confident that the connectivity an operational SOHCN will provide our participating health care facilities will enable them to fully cooperate with HHS and its Centers for Disease Control and Prevention in any crisis.

*This report was prepared and submitted by Reid Consulting Group LLC, 4 Elizabeth Drive, Athens, OH 45701. Questions? Call (740) 590-0076*